

Project Summary

US Army Engineer Research and Development Center Waterways Experiment Station

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Computational Tools for Geotechnical Analysis

<u>Description:</u> The recent study "Civil Works R&D Return on Investment" identified four projects in which geotechnical modeling led to a total of \$10M in savings. The savings were achieved because advanced numerical analysis software were made available by previous research in computer simulation methods. None of the projects for which the savings were made could have supported project-specific software development. Future projects will benefit from current efforts to improve capabilities for dynamic analysis and large deformations.

<u>Goal of Project:</u> Provide the capabilities for standardized three dimensional geotechnical analysis on DOD HPC resources.

<u>Publications on Use of Finite Elements by Corps of Engineers:</u>

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Peters, J. F., Wahl, R. E., and Meade, R. B. "Users Manual for STUBBS: A Finite Element Program for Geotechnical Analysis." WES Technical Report GL-97-1, March 1997.

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Wahl, R. E., Peters, J. F., and Brotman, 1. "Analysis of Reinforced Revetment Slope of Sargent Beach Erosion Protection Project of the Gulf Intracoastal Waterway," WES Technical Report GL-97-6 March 1997.